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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/622,769	07/21/2003	Birol Emir	109536.182	4223

24395 7590 05/10/2006

WILMER CUTLER PICKERING HALE AND DORR LLP
1875 PENNSYLVANIA AVE., NW
WASHINGTON, DC 20004

EXAMINER	
OLSON, ERIC	

ART UNIT	PAPER NUMBER
1623	

DATE MAILED: 05/10/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/622,769	EMIR ET AL.	
	Examiner	Art Unit	
	Eric S. Olson	1623	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *21 July 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *3-9* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *3-9* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *28 June 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☒ All b)☐ Some * c)☐ None of:

1.☒ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *June 28, 2004*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

Detailed Action

This application claims benefit of Japanese patent application 2002-363139, filed December 13, 2002. An English translation of the specification of this application has been provided. Claims 3-9 are pending in this application and examined on the merits herein. Applicant's preliminary amendment submitted June 28, 2004 is acknowledged wherein claims 1-2 are cancelled and new claims 3-9 are introduced.

Claim Rejections – 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 5-8 are rejected under 35 U.S.C. 102(b) as being anticipated by Shua-Haim et al. (Reference included with PTO-1449) Shua-Haim et al. discloses two case reports of patients suffering from severe Alzheimer's disease treated by the administration of 1-benzyl-4-(5,6-dimethoxy-1-indenone)2-yl-methylpiperidine hydrochloride, herein referred to as donepezil. In both cases the severity of the disease was characterized by a score of zero on the Folstein Mini-Mental State Exam, (p. 2, right column, paragraph 2, and p. 3, right column, paragraph 1) as described by the limitations of instant claims 5-8. In both cases the dose of donepezil was 5 mg/day, (p. 3, left column, first paragraph, and right column, fourth paragraph) which falls within the dosage ranges given in instant claims 6-7. These cases describe the same dosage of

the same compound administered to the same patient population as instant claims 5-8. Thus the claimed invention is anticipated by the disclosure of Shua-Haim et al.

Claims 3-9 are rejected under 35 U.S.C. 102(b) as being unpatentable over Feldman et al. (Reference included with PTO-1449) Feldman et al. discloses a study of the efficacy of donepezil for the treatment of moderate to severe Alzheimer's disease, characterized by a score of 5-17 on the Folstein Mini-Mental State Exam. (p. 614, left column, third paragraph) This range of scores overlaps with the limitation of claim eight, (a score of less than 10) and fully includes the limitations of claims 3, 4, and 9. (a score of 5-9) The dose administered to the patients was either 5 or 10 mg per day, (p. 614, left column, first paragraph) both of which fall within the dose limitations of claims 3, 6, and 7. The method of Feldman et al. involves administering the same compound in the same dose to the same or similar patient population. The claimed invention is thus anticipated by Feldman et al.

Claim Rejections – 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 3-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 5100901. (herein referred to as '901).

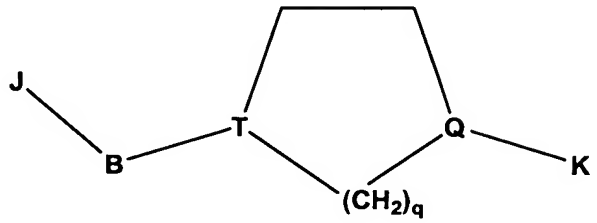

Figure 1 - The Compounds of claim 1 of US Patent 5100901

'901 discloses a therapeutic method involving a compound with a formula (XXV), shown in Figure 1 above. (and described in claim 1 of '901) The claim limitations of said claim include an instance in which J = (Indanonyl with two methoxy substituents), B = (CH_2), T = carbon, Q = nitrogen, K = phenylmethylene, and q = 2, which is identical to the compound 1-benzyl-4-(5,6-dimethoxy-1-indenone)2-yl-methylpiperidine, also known as donepezil, pictured below in figure 2 and described in instant claims 3-9. Although neither the claims nor the specification particularly point out donepezil as a specific embodiment of the claimed invention, a number of the specific examples shown in tables 4 and 9 are substantially structurally similar to donepezil. (For example, examples 28, 31, 33, and 35 in columns 47-50)

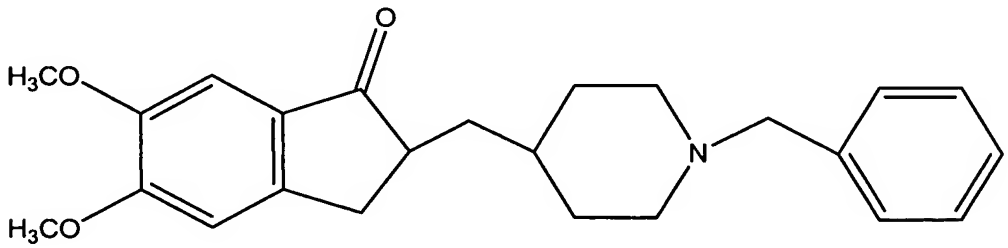

Figure 2- One instance of formula (XXV) of '901, also the compound of instant claims 3-9.

'901 defines the patient population as humans suffering from a disease accompanied by acetylcholinesterase activity. (claims 9-10) This is further limited to humans suffering from senile dementia in claim 9 and humans suffering from Alzheimer's disease in claim 10. These claims do not specifically claim a treatment of severe Alzheimer's disease characterized by a MMSE score of 5-9 by administering donepezil at a dosage of 3-10 mg. However, the specification of '901 does disclose a dosage range of 1.0 to 300 mg per day, more preferably 1 to 100 mg per day. (Column 29, lines 41-43)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of '901 by developing a specific therapeutic method comprising administering to a human patient suffering from Alzheimer's disease characterized by a MMSE score of 5-9 by the administration of 3-10 mg per day of the specific compound donepezil.

One of ordinary skill in the art would have been motivated to modify the teaching of '901 in this way in order to optimally treat patients suffering from Alzheimer's disease. One of ordinary skill in the art would have reasonably expected success because the determination of exact details of patient population and dosage amounts is within the level of ordinary skill in the medical art. Furthermore, although the specific compound mentioned in the instant claims is not specifically recited in '901, it is included within the scope of the claimed generic structure (XXV), and is very similar to a number of specific embodiments pointed out in the specification of '901, thus leading one of ordinary skill in the art to reasonably conclude that it was useful in the methods of claims 9-10 of '901,

based on the reasonable expectation that species that are very similar in structure usually have similar properties. See e.g., Dillon, 919 F.2d at 693, 696, 16 USPQ2d at 1901, 1904. See also Deuel, 51 F.3d at 1558, 34 USPQ2d at 1214.

Thus the invention taken as a whole is *prima facie* obvious

Claims 3-9 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4895841. (herein referred to as '841)

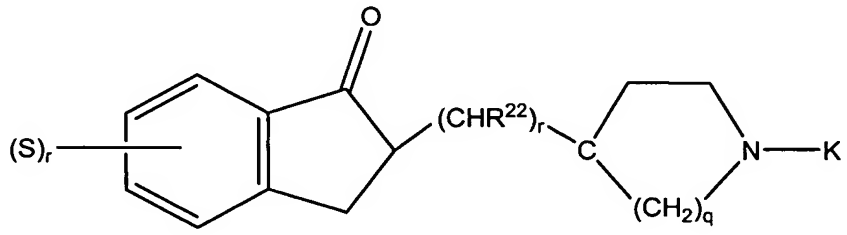

Figure 3 - The cyclic amine compounds of US Patent 4895841

'841 discloses a therapeutic method involving a compound with a formula (XXV), shown in Figure 3 above, and described in claim 1 of '841. (Claims 12-13) The claim limitations of said claim include an instance in which r = 1, K = phenylmethylene, S = methoxy, t = 2, q = 2, and R^{22} = H, which is identical to the compound 1-benzyl-4-(5,6-dimethoxy-1-indenone)2-yl-methylpiperidine, also known as donepezil, pictured below in figure 4 and described in instant claims 3-9. Although neither the claims nor the specification of '841 particularly point out donepezil as a specific embodiment of the claimed invention, a number of the specific examples shown in tables 4 and 9 are substantially structurally similar to donepezil. (For example, examples 28, 31, 33, and 35 in columns 49-52)

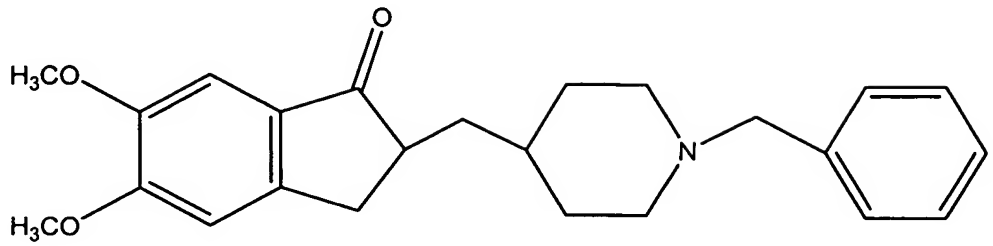

Figure 4- One instance of the formula of claim 1 of '841, also the compound of instant claims 3-9.

Claims 12-13 of '841 define the patient population as humans suffering from a disease accompanied by acetylcholinesterase activity. This is further limited to humans suffering from senile dementia in claim 12 and humans suffering from Alzheimer's disease in claim 13. These claims do not specifically claim a treatment of severe Alzheimer's disease characterized by a MMSE score of 5-9 by administering donepezil at a dosage of 3-10 mg. However, the specification of '841 does disclose a dosage range of 1.0 to 300 mg per day, more preferably 1 to 100 mg per day. (Column 30, lines 24-26)

It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the teaching of '841 by developing a specific therapeutic method comprising administering to a human patient suffering from Alzheimer's disease characterized by a MMSE score of 5-9 by the administration of 3-10 mg per day of the specific compound donepezil.

One of ordinary skill in the art would have been motivated to modify the teaching of '841 in this way in order to optimally treat patients suffering from Alzheimer's disease. One of ordinary skill in the art would have reasonably expected success because the determination of exact details of patient population and dosage amounts is within the level of ordinary skill in the medical art. Furthermore, although the specific

compound mentioned in the instant claims is not specifically recited in '841, it is included within the scope of the claimed generic structure (XXV), and is very similar to a number of specific embodiments pointed out in the specification of '841, thus leading one of ordinary skill in the art to reasonably conclude that it was useful in the methods of claims 12-13 of '841, based on the reasonable expectation that species that are very similar in structure usually have similar properties. See e.g., Dillon, 919 F.2d at 693, 696, 16 USPQ2d at 1901, 1904. See also Deuel, 51 F.3d at 1558, 34 USPQ2d at 1214.

Therefore the invention taken as a whole is *prima facie* obvious.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 3-9 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 9-10 of U.S. Patent No. 5100901. (herein referred to as '901) Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims are an obvious subspecie of claims 8-10 of '901.

Claims 9-10 of '901 are directed to a therapeutic method involving a compound with a formula (XXV), shown in Figure 1 in the previous section. (and described in claim 1 of '901) The claim limitations of said claim include an instance in which J = (Indanonyl with two methoxy substituents), B = (CH_2), T = carbon, Q = nitrogen, K = phenylmethylene, and q = 2, which is identical to the compound 1-benzyl-4-(5,6-dimethoxy-1-indenone)2-yl-methylpiperidine, also known as donepezil, pictured in figure 2 in the previous section and described in instant claims 3-9. Although neither the claims nor the specification particularly point out donepezil as a specific embodiment of the claimed invention, a number of the specific examples shown in tables 4 and 9 are substantially structurally similar to donepezil. (For example, examples 28, 31, 33, and 35 in columns 47-50)

Claims 9-10 of '901 define the patient population as humans suffering from a disease accompanied by acetylcholinesterase activity. This is further limited to humans suffering from senile dementia in claim 9 and humans suffering from Alzheimer's disease in claim 10. These claims do not specifically claim a treatment of severe Alzheimer's disease characterized by a MMSE score of 5-9 by administering donepezil at a dosage of 3-10 mg. However, the specification of '901 does disclose a dosage

range of 1.0 to 300 mg per day, more preferably 1 to 100 mg per day. (Column 29, lines 41-43)

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This is an obviousness-type double patenting rejection.

Claims 3-9 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claims 12-13 of U.S. Patent No. 4895841. (herein referred to as '841) Although the conflicting claims are not identical, they are not patentably distinct from each other because the instant claims are an obvious subspecie of claims 12-13 of '841.

Claims 12-13 of '841 are directed to a therapeutic method involving a compound with a formula (XXV), shown in Figure 3 in the previous section. (and described in claim 1 of '841) The claim limitations of said claim include an instance in which r = 1, K = phenylmethylene, S = methoxy, t = 2, q = 2, and R^{22} = H, which is identical to the compound 1-benzyl-4-(5,6-dimethoxy-1-indenone)2-yl-methylpiperidine, also known as donepezil, pictured in figure 4 in the previous section and described in instant claims 3-9. Although neither the claims nor the specification of '841 particularly point out donepezil as a specific embodiment of the claimed invention, a number of the specific examples shown in tables 4 and 9 are substantially structurally similar to donepezil. (For example, examples 28, 31, 33, and 35 in columns 49-52)

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This is an obviousness-type double patenting rejection.

Summary

No claims are allowed in this application

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Eric S. Olson whose telephone number is 571-272-9051. The examiner can normally be reached on Monday-Friday, 8:30-5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Shaojia Anna Jiang can be reached on (571)272-0627. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Eric Olson
Patent Examiner
AU 1623
5/1/06

Anna Jiang
Supervisory Patent Examiner
AU 1623